ISFSI

INSTRUCT-O-GRAM

THE HANDS-ON TRAINING GUIDE FOR THE FIRE INSTRUCTOR

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STRATEGY AND TACTICS – PART 2
SIZE-UP CONSIDERATIONS

TIME REQUIRED: **3 Hours**

MOTIVATION

The concept of a Size-up is a process that should begin well before the receipt of an alarm. The fire officer's ability to gather information about a specific type of building, it's occupancy, available water supply will provide the fire officer valuable information before leaving quarters. This process should begin in the simplest and most obvious sense in the form of the fire officer's education. Upon the fire officers arrival, additional size-up factors can be referenced specific to the incident to further the ability for effective, efficient, and most important, safe decision making.

OBJECTIVE

The principle objective of this Instruct-O-Gram, is to provide the necessary information to carryout a well defined Size-up to handle an emergency situation.

PERFORMANCE OBJECTIVES

The student shall have an understanding of the following:

1. What is Size-up?
2. What are the 15 points to the Size-up system?

SIZE-UP CONSIDERATIONS

A. What is Size-up?

1. Size-up is a systematic process consisting of the rapid yet deliberate, consideration of all critical fire ground factors and leads to the development of a rational attack plan based upon the size-up factors.
2. Size-up is a rapid mental evaluation of various factors related to an emergency incident
3. Size-up is made by the initial arriving officer
4. Size-up determines what is to be done and how to accomplish it
5. Size-up is an estimate of the situation

Size-up is not something that is considered initially and then forgotten about. Size-up should begin at the receipt of the alarm, and continued throughout the entire operation, until we are back in quarters.

The Size-up process is a series of fifteen points. The fifteen point size-up factors are essential for the effective decision making by the Incident Commander. Each of the fifteen points allows the fire officer the ability to evaluate the information for the strategical and tactical decisions that the fire officer responds to.

The acroymn used to phrase the fifteen point size-up is "COAL TWAS WEALTHS." Each letter listed represents each of the fifteen size-up system.

1. **Construction**

   Class 1 – Fire Resistive Construction

   Class 2 – Non-Combustible/Limited Combustible Construction

   Class 3 – Ordinary Construction

   Class 4 – Heavy Timber/Mill Construction

   Class 5 – Wood Frame Construction

   Age of the structure

   Condition of the structure

2. **Occupancy**

   Refers to the structure's use

   Its inherent characteristics

   Occupancy load and status

   Inherent construction features based on the occupancy

   Residential structures such as single and multi-family homes

   Apartments and condominiums

   Shopping centers, malls, and strip stores

   High-rise buildings, both office and residential

   Large area buildings – factories, warehouses, industrial, offices

   Nursing homes, care centers, hospitals, and group homes

   Schools an/or academic buildings

   Day care centers

   Churches and places of worship

   Hotels, motels, and catering halls

   Hardware stores and lumber yards

   Facilities that may contain hazardous materials, and etc.

   Original occupancy

   Present occupancy

3. **Apparatus**

   Refers to the amount of equipment operating, responding, or available for use at the scene, and should also include the amount of fire fighters available.

   Engine companies

   Ladder companies

   Rescue companies

   Additional resources

   Resource capabilities

4. **Life Hazard**

   Firefighters

   Building occupants

   Other emergency service personnel

   Bystanders/spectators

5. **Terrain**

   Lay of the land which may interfere with the operations of the fire department

   Building set backs

   Buildings built on a grade, hill, or on top of a cliff

   General accessibility

   Heavily wooded areas

   Beach or lake front problems

   Landscaping, and ornamental fountains and statues

   Locked gates and fences surrounding the property

   Underground accesses and tunnels

6. **Water Supply**

Where is it, how do we get it, and availability

Sources of water

- Apparatus
- Streams
- Ponds and lakes
- Hydrants
- Tankers

Amount of water required

- Fire flows
- Requirements
- Capabilities

Water delivery factors

- Engines
- Tankers
- Relay operations

7. **Auxiliary Appliances**

Fire detection equipment

- Smoke detectors
- Heat detectors

Fire suppression equipment

- Standpipes
- Sprinklers
- Extinguishers

Building/complex security, engineers, maintenance, etc.

8. **Street Conditions**

Refers to conditions that could affect apparatus response time, movement placement and operations

Street widths and corners

Main arteries and highways

Side and secondary streets

Traffic flow during certain times of the day or week

Street grade

Dead ends and Cul-de-sacs

Road surfaces

Construction and street openings

Weather conditions, such as flooding, trees down, snow, etc

9. **Weather Conditions**

Elements that affect fire department response and operations

Wind, low wind conditions, high wind conditions, hurricanes, storms

Temperatures, extremely high/low temps

Humidity, high/low

Precipitation, light rain, heavy rain, flash flooding, hurricanes, etc

10. **Exposures**

Those areas which are in close proximity to the main body of fire or fire travel

Interior exposures – adjacent rooms or halls, the floor above, the top floor

Exterior exposures – adjacent buildings and other exposures

Human exposures – building occupants, fire fighters, bystanders

11. **Area Of The Building Or Fire**

Square footage involved in the fire

Square footage threatened by the fire and its products

Irregular shaped buildings – shopping centers, malls, hospitals, schools, etc

Inter-connected buildings – offices, schools, etc

Hidden areas

12. **Location And Extent Of Fire**

Locations of the fire

Extention probability and possibility

Below grade or cellar fires

Lower level fires, first, second floors

Upper level fires, third floor and above

How far has the fire extended and into what areas

13. **Time**

Specific time of the incident

Times influencing factors

Time of the day

Times of the month

Times of the year

Burn time/lag times

14. **Height Of The Structure**

How high is the building

It's influencing factors

Accessibility to the structure

Stack effect of heat and smoke in the structure

Reverse stack effect of heat and smoke

Stratification

15. **Special Considerations**

Those conditions or thoughts, strategies or concerns that would be specific to the incident. These would be over and above the initial size-up considerations.

Explosions

Structural collapse

Panic among building occupants

Need for specially trained personnel

Need for large amounts of breathing apparatus

Specialized extinguishing agents

Exits unavailable or unknown for everyone's use

We can see that following this fifteen point size-up system will give us a good guideline to address the incident problems that will be facing us. Not all of the size-up factors need to be addressed at the scene every time we respond, only those that present themselves at the incident. A good fire officer will always take these factors into consideration to avoid any surprises that could cause a change in the way we anticipate the incident to go,

REFERENCES

8 Steps To Strategy And Tactics, Carter
Size-up, A Comprehensive Look, Terpak

ACKNOWLEDGEMENTS

The material in this Instruct-O-Gram is provided courtesy of Michael L. Toth, Ex-Chief, East Franklin Twp. Vol. Fire Department, and Captain (ret) New Brunswick Fire Department, and is currently the Training Officer for the Franklin Twp. Fire District #3 in Somerset, New Jersey